

**DECLARATION FOR PATENT APPLICATION**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name;

I believe I am the original, first and sole inventor (if only one name is listed below), or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

**ENGINEERING OF STRONG, PLIABLE TISSUES**

the specification of which (check one)

\_\_\_\_\_ is attached hereto

X was filed on May 19, 1995  
as application Serial No. 08/445,280

\_\_\_\_\_ and was amended on: \_\_\_\_\_  
(if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, § 1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, § 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)			Priority Claimed
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	_____
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	_____
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	_____

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of the application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

_____ (Application Serial No.)	_____ (Filing Date)	_____ Status (patented, pending, abandoned)
_____ (Application Serial No.)	_____ (Filing Date)	_____ Status (patented, pending, abandoned)

"Engineering of Strong, Pliable Tissues"  
By: Joseph P. Vacanti, et al.  
Filed: May 19, 1995  
DECLARATION

As named inventor, I hereby appoint the following attorney(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

Patrea L. Pabst	31,284
Madeline I. Johnston	36,174
Robert A. Millman	36,217

Send Correspondence to: Patrea L. Pabst, Esq.  
ARNALL GOLDEN & GREGORY  
2800 One Atlantic Center  
1201 W. Peachtree Street  
Atlanta, GA 30309-3450

Direct telephone calls to: Patrea L. Pabst (404)873-8794

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor Joseph P. Vacanti  
Inventor's signature *Joseph P. Vacanti* Date 7/10/95  
Residence 14 Woodside Road, Winchester, Massachusetts 01890  
Citizenship United States  
Post Office Address Same as above

Full name of second joint inventor (if any) Christopher K. Breuer  
Inventor's signature *Christopher K. Breuer* Date 7/14/95  
Residence 310 Market Street, Brighton, Massachusetts 02135  
Citizenship United States  
Post Office Address Same as above

Full name of third joint inventor (if any) Beverly E. Chaignaud  
Inventor's signature Beverly E. Chaignaud Date 7/12/95  
Residence 1443 Beacon Street, Apt. 511, Brookline, Massachusetts 02146  
Citizenship United States  
Post Office Address Same as above

Full name of fourth joint inventor (if any) Toshiraru Shin'oka  
Inventor's signature T. Shin'oka Date 12/7/95  
Residence 4 Lincoln Road, Brookline, Massachusetts 02146  
Citizenship Japan  
Post Office Address Same as above

Applicant or Patentee: Joseph P. Vacanti, et al.  
Attorney's  
Docket No.:  
CMCC450

Serial or Patent No.: 08/445,280

Filed or Issued: May 19, 1995

For: ENGINEERING OF STRONG, PLIABLE TISSUES

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS  
(37 CFR 1.9(f) and 1.27(d)) - NONPROFIT ORGANIZATION

I hereby declare that I am an official empowered to act  
on behalf of the nonprofit organization identified below:

NAME OF ORGANIZATION: Children's Medical Center  
Corporation  
ADDRESS OF ORGANIZATION: 55 Shattuck Street  
Boston, Massachusetts 02115

TYPE OF ORGANIZATION

- ☐ UNIVERSITY OR OTHER INSTITUTION OF HIGHER  
EDUCATION
- ☒ TAX EXEMPT UNDER INTERNAL REVENUE SERVICE CODE  
(26 USC 501(a) and 501(c)(3))
- ☐ NONPROFIT SCIENTIFIC OR EDUCATIONAL UNDER STATUTE  
OF STATE OF THE UNITED STATES OF AMERICA
- ☐ WOULD QUALIFY AS TAX EXEMPT UNDER INTERNAL REVENUE  
SERVICE CODE (26 USC 501(a) and 501(c)(3) IF  
LOCATED IN THE UNITED STATES OF AMERICA
- ☐ WOULD QUALIFY AS NONPROFIT SCIENTIFIC OR  
EDUCATIONAL UNDER STATUTE OF STATE OF THE UNITED  
STATES OF AMERICA IF LOCATED IN THE UNITED STATES  
OF AMERICA

I hereby declare that the nonprofit organization  
identified above qualifies as a nonprofit organization as defined  
in 37 CFR 1.9(e) for purposes of paying reduced fees under  
section 41(a) and (b) of Title 35, United States Code with regard  
to the invention entitled "Engineering of Strong, Pliable

"Engineering of Strong, Pliable Tissues"  
Filed: May 19, 1995  
By: Joseph P. Vacanti, et al.  
VERIFIED STATEMENT CLAIMING SMALL ENTITY STATUS

Tissues" by inventors Joseph P. Vacanti, Christopher K. Breuer,  
Beverly E. Chaignaud, and Toshiraru Shin'oka described in

☐ the specification filed herewith

☒ application serial no. 08/445,280, filed May 19,  
1995

☐ patent no. \_\_\_\_\_ issued \_\_\_\_\_

I hereby declare that rights under contract or law have  
been conveyed to and remain with the nonprofit organization with  
regard to the above-identified invention.

If the rights held by the nonprofit organization are  
not exclusive, each individual, concern or organization having  
rights to the invention is listed below\* and no rights to the  
invention are held by any person, other than the inventor, who  
could not qualify as an independent inventor under 37 CFR 1.9(c)  
or by any concern which would not qualify as a small business  
concern under 37 CFR 1.9(d) or a nonprofit organization under 37  
CFR 1.9(e).

**\*NOTE:** Separate verified statements are required from each named  
person, concern or organization having rights to the invention  
averring to their status as small entities. (37 CFR 1.27)

NAME:

ADDRESS:

☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORG

"Engineering of Strong, Pliable Tissues"  
Filed: May 19, 1995  
By: Joseph P. Vacanti, et al.  
VERIFIED STATEMENT CLAIMING SMALL ENTITY STATUS

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING:

TITLE IN ORGANIZATION:

ADDRESS OF PERSON SIGNING:

**WILLIAM NEW**  
**DIRECTOR, RESEARCH AFFAIRS**  
**Children's Hospital**  
**300 Longwood Avenue**  
**Boston, MA 02115**

July 18, 1995

SIGNATURE

DATE

**DECLARATION FOR PATENT APPLICATION**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name;

I believe I am the original, first and sole inventor (if only one name is listed below), or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

**ENGINEERING OF STRONG, PLIABLE TISSUES**

the specification of which (check one)

\_\_\_\_\_ is attached hereto

X was filed on May 19, 1995  
as application Serial No. \_\_\_\_\_

\_\_\_\_\_ and was amended on: \_\_\_\_\_  
(if applicable)

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Prior Foreign Application(s)			Priority Claimed
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	_____
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	_____
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	_____

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_____ (Application Serial No.)	_____ (Filing Date)	_____ Status (patented, pending, abandoned)
_____ (Application Serial No.)	_____ (Filing Date)	_____ Status (patented, pending, abandoned)

As named inventor, I hereby appoint the following attorney(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

Patrea L. Pabst	31,284
Madeline I. Johnston	36,174
Robert A. Millman	36,217

Send Correspondence to: Patrea L. Pabst, Esq.  
ARNALL GOLDEN & GREGORY  
2800 One Atlantic Center  
1201 W. Peachtree Street  
Atlanta, GA 30309-3450

Direct telephone calls to: Patrea L. Pabst (404)873-8794

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Full name of sole or first inventor Joseph P. Vacanti

Inventor's signature \_\_\_\_\_ Date \_\_\_\_\_

Residence 14 Woodside Road, Winchester, Massachusetts 01890

Citizenship United States

Post Office Address Same as above

Full name of second joint inventor (if any) Christopher K. Breuer

Inventor's signature \_\_\_\_\_ Date \_\_\_\_\_

Residence 310 Market Street, Brighton, Massachusetts 02135

Citizenship United States

Post Office Address Same as above



Full name of third joint inventor (if any) Beverly E. Chaignaud

Inventor's signature \_\_\_\_\_ Date \_\_\_\_\_

Residence 1443 Beacon Street, Apt. 511, Brookline, Massachusetts 02146

Citizenship United States

Post Office Address Same as above

Full name of fourth joint inventor (if any) Toshiraru Shin'oka

Inventor's signature \_\_\_\_\_ Date \_\_\_\_\_

Residence 4 Lincoln Road, Brookline, Massachusetts 02146

Citizenship Japan

Post Office Address Same as above

# RECORDATION FORM COVER SHEET

## PATENTS ONLY

U.S. DEPARTMENT OF COMMERCE  
Patent and Trademark Office

Tab settings □ □ □ ▼

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

## 1. Name of conveying party(ies):

Joseph P. Vacanti  
Christopher K. Breuer  
Beverly E. Chaignaud  
Toshiraru Shin'oka

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

## 2. Name and address of receiving party(ies)

Name: Children's Medical Center  
Corporation

Internal Address: \_\_\_\_\_

Street Address: 55 Shattuck Street

City: Boston State: MA ZIP: 02115

Additional name(s) & address(es) attached? ☐ Yes ☒ No

## 3. Nature of conveyance:

- ☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☐ Other \_\_\_\_\_

Execution Date: July 12, 14, 13, 12, 1995

## 4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: \_\_\_\_\_

## A. Patent Application No.(s)

08/445,208

## B. Patent No.(s)

Additional numbers attached? ☐ Yes ☐ No

## 5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Patrea L. Pabst, Esq.

Internal Address: Arnall Golden & Gregory

Street Address: 1201 West Peachtree Street

2800 One Atlantic Center

City: Atlanta State: GA ZIP: 30309-3450

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41).....\$ 40.00

☒ Enclosed

☒ Authorized to be charged to deposit account  
any additional charge or credit overpayment

## 8. Deposit account number:

01-2507

(Attach duplicate copy of this page if paying by deposit account)

DO NOT USE THIS SPACE

## 9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Patrea L. Pabst, Esq.

Name of Person Signing

Signature

July 18, 1995

Date

Total number of pages including cover sheet, attachments, and document: 5

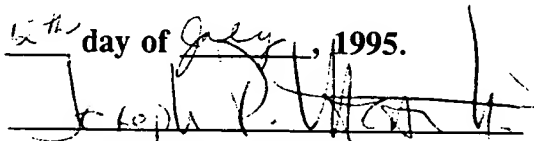
Mail documents to be recorded with required cover sheet information to:  
Commissioner of Patents & Trademarks, Box Assignments

## ASSIGNMENT

We, Joseph P. Vacanti of 14 Woodside Road, Winchester, Massachusetts 01890; Christopher K. Breuer of 310 Market Street, Brighton, Massachusetts 02135; Beverly E. Chaignaud of 1443 Beacon Street, Apt. 511, Brookline, Massachusetts 02146; and Toshiraru Shin'oka of 4 Lincoln Road, Brookline, Massachusetts 02146, in consideration of Ten Dollars and other valuable consideration paid to us by Children's Medical Center Corporation, a corporation of Massachusetts having its principal place of business at 55 Shattuck Street, Boston, Massachusetts 02115, the receipt of which is hereby acknowledged, do hereby sell, assign and transfer unto said Children's Medical Center Corporation, its successors and assigns, the entire interest for the United States of America and its territories and all foreign countries and jurisdictions, including all rights of priority under the International Convention for the Protection of Industrial Property in a certain invention or improvement in "Engineering of Strong, Pliable Tissues" described in U.S. Serial No. 08/445,280 filed May 19, 1995, by Joseph P. Vacanti, Christopher K. Breuer, Beverly E. Chaignaud and Toshiraru Shin'oka, in the United States Patent and Trademark Office, and in all Letters Patent of the United States and its territories and all foreign countries and jurisdictions which may or shall be granted on said invention, or any parts thereof, or on said application, or any divisional, continuation, continuation-in-part, renewals, reissue or other applications based in whole or in part thereon. And we agree, for ourselves and our executors and administrators, with said corporation and its successors and assigns but at its or their expense or charges, hereafter to execute all applications, amended specifications, deeds or other instruments, and to do all acts necessary or proper to secure the grant of Letters Patent in the United States and in all other countries to said corporation, with specifications and claims in such form as shall be approved by the counsel of said corporation and to vest and confirm in said corporation, its successors and assigns, the legal title to all such patents.

And we do hereby authorize and request the Commissioner of Patents and Trademarks of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said corporation, its successors and assigns.

WITNESS my hand and seal this 12<sup>th</sup> day of July, 1995.

  
Joseph P. Vacanti

Commonwealth of Massachusetts  
County of Suffolk

) ss.

Then personally appeared the above named Joseph P. Vacanti and acknowledged the foregoing instrument to be his free act and deed, before me, this 12<sup>th</sup> day of July, 1995.

  
Pauline L. Breen  
Notary Public

(commission expires 7/96)

"Engineering of Strong, Pliable Tissues"  
By: Joseph P. Vacanti, et al  
Filed: May 19, 1995  
ASSIGNMENT

WITNESS my hand and seal this 14 day of July 1995.

Christopher K. Breuer

Christopher K. Breuer

Commonwealth of Massachusetts  
County of

)  
) ss.

Then personally appeared the above named Christopher K. Breuer and acknowledged the foregoing instrument to be his free act and deed, before me, this 14 day of July, 1995.

Marjorie A. Boyes  
Notary Public

My Commission Expires October 16, 1998

"Engineering of Strong, Pliable Tissues"  
By: Joseph P. Vacanti, et al  
Filed: May 19, 1995  
ASSIGNMENT

WITNESS my hand and seal this 13<sup>th</sup> day of July, 1995.

Beverly E. Chaignaud  
Beverly E. Chaignaud

Commonwealth of Massachusetts )  
County of Suffolk ) ss.

Then personally appeared the above named Beverly E. Chaignaud and acknowledged the foregoing instrument to be her free act and deed, before me, this 13<sup>th</sup> day of July, 1995.

Pauline L. Breen  
Notary Public  
(commission expires 4/96)

"Engineering of Strong, Pliable Tissues"  
By: Joseph P. Vacanti, et al  
Filed: May 19, 1995  
ASSIGNMENT

WITNESS my hand and seal this 12<sup>th</sup> day of July, 1995.

Toshiraru Shin'oka  
Toshiraru Shin'oka

Commonwealth of Massachusetts )  
County of Suffolk ) ss.

Then personally appeared the above named Toshiraru Shin'oka and  
acknowledged the foregoing instrument to be his free act and deed, before me, this 12<sup>th</sup>  
day of July, 1995.

Pauline L. Breen  
Notary Public  
(commission expires 4/96)

CERTIFICATE UNDER 37 CFR 3.73(b)

jc542 U.S. PTO  
09/185360  
11/03/98

Applicants: Joseph P. Vacanti, et al.

Application No.: 08/445,280

Filed: May 19, 1995

For: ENGINEERING OF STRONG, PLIABLE TISSUES  
Children's Medical

Center Corporation

(Name of Assignee)

a corporation

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

certifies that it is the assignee of the entire right, title and interest in the patent application identified above by virtue of either:

- A. ☐ An assignment from the inventor of the patent application identified above. The assignment was recorded in the Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

OR

- B. ☒ A chain of title from the inventor(s), of the patent application identified above, to the current assignee as shown below:

1. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.
2. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.
3. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplement sheet.

☐ Copies of assignments or other documents in the chain of title are attached.

The undersigned has reviewed all the documents in the chain of title of the patent application identified above and, to the best of undersigned's knowledge and belief, title is in the assignee identified above.

The undersigned (whose title is supplied below) is empowered to act on behalf of the assignee.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and believe are believed to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date : July 18, 1995

Name : William G. New

Title : Director, Research Affairs

Signature : \_\_\_\_\_